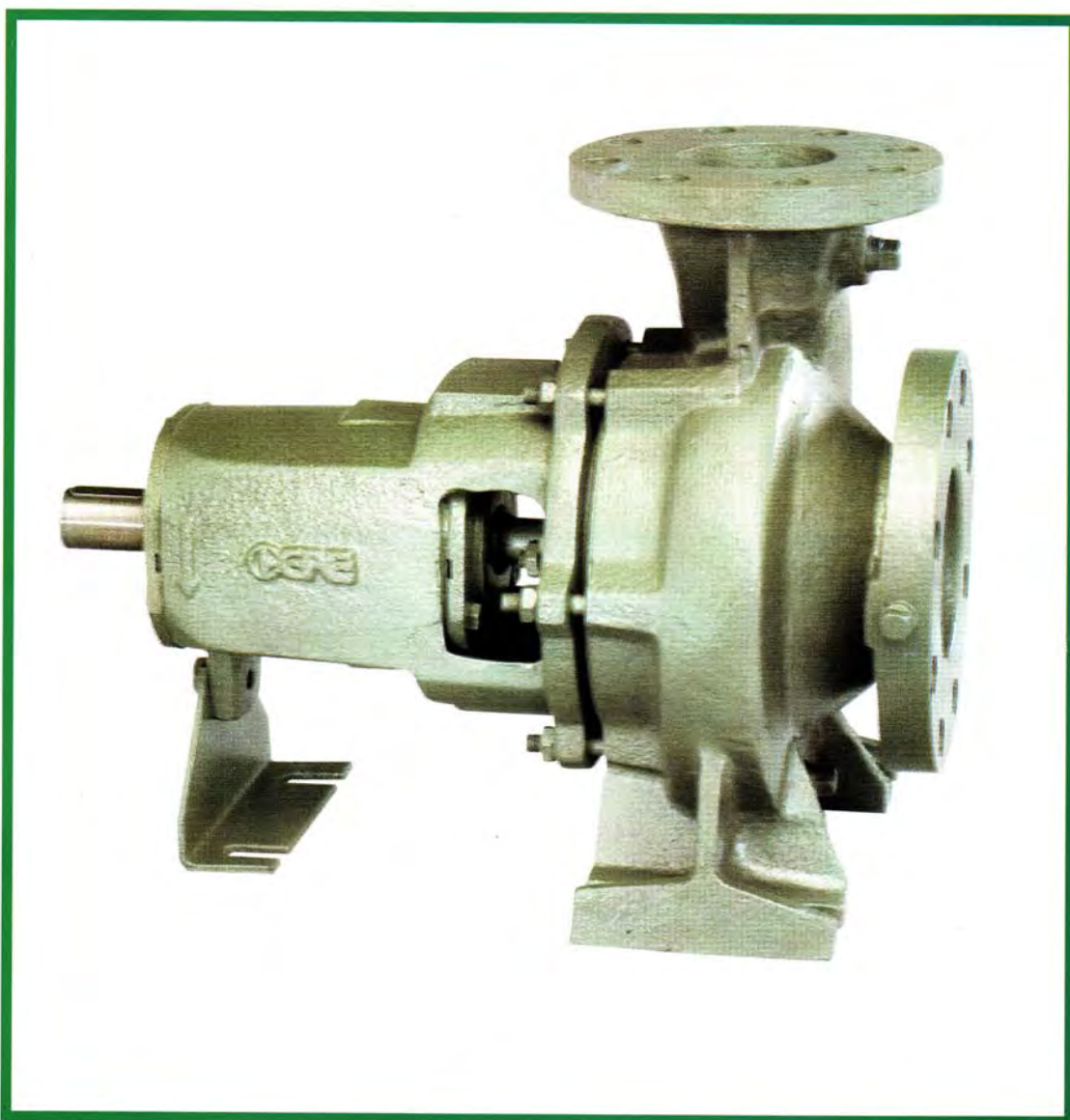


ETA-N

Centrifugal Pumps



TORISHIMA PUMP

ETA.N Centrifugal Pumps

GENERAL

ETA.N series are industrial pumps of back pull out design according to JIS B 8313

APPLICATIONS

- General water supply, irrigation and drainage
- Pumping of sea water, brine, alkali and condensate
- Circulating hot and cold water supply
- Sprinkling & fire fighting system
- Swimming Pool

DESIGN

- End suction volute pumps with vertical centerline discharge
- Back Pull Out (BPO) design allows the removal all rotating elements without disturbing the casing, piping or motor

MATERIAL EXPLANATION

- Bronze of BC2 or BC6 quality is recommended for sea water application or other corrosive media

IMPELLER

- Closed, radial flow impeller fitted with protective wear ring
- Balanced hydraulically
- Trimming of Impeller is possible

BEARINGS

- Permanent lubricated grease ball bearings
- Oil lubricated bearing (see option)

SHAFT SEALS

- Strong stuffing boxes
- Single acting mechanical seal are available

FLANGES

JIS 10 kgf/cm² F.F

DRIVE

Electric motors and engines-are also available on request.

DIRECTION OF ROTATION

Clockwise viewed from the drive end

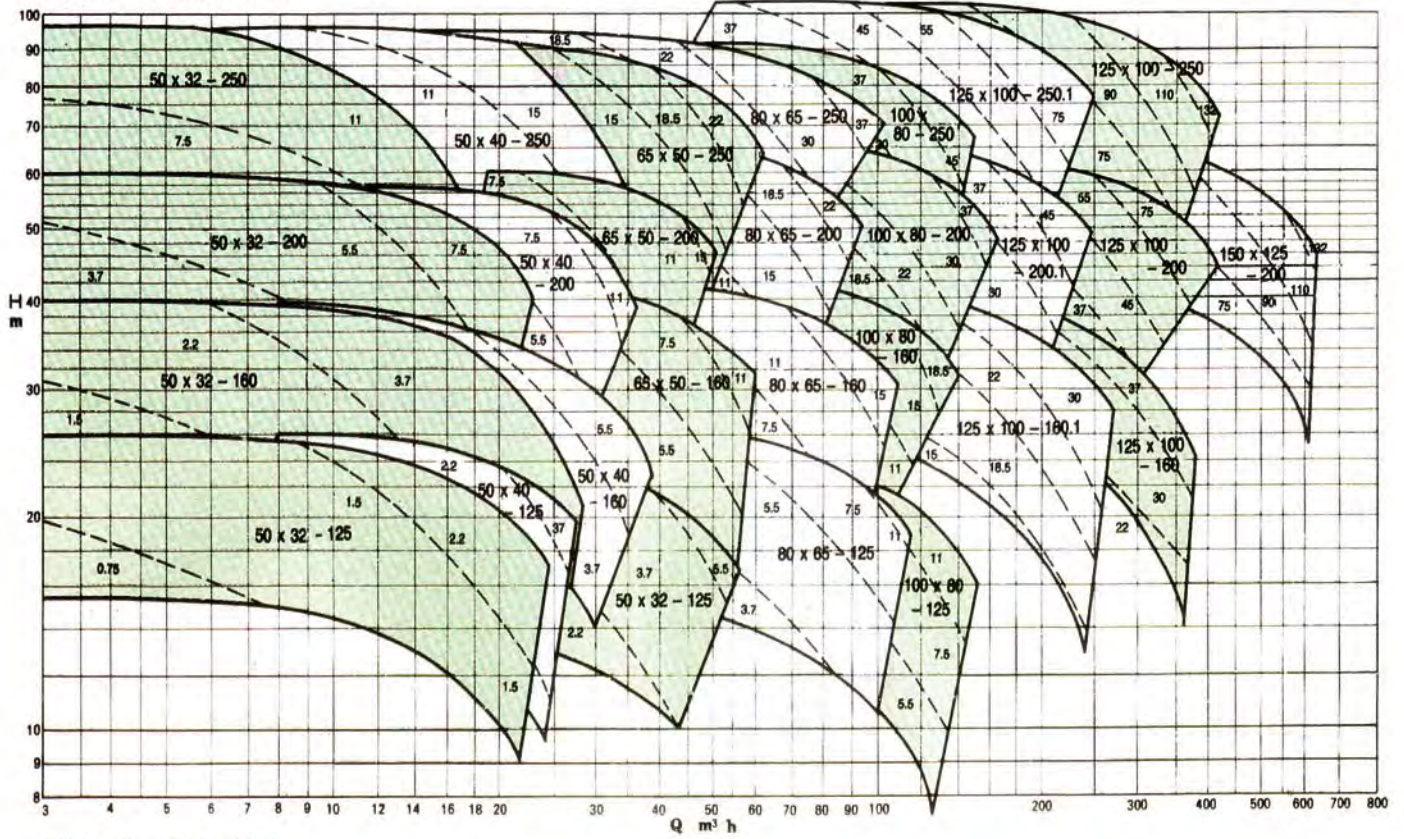
SPECIFICATIONS

		STANDARD	OPTION*
CAPACITY		up to 620 M ³ /h (170 l/s)	
TOTAL HEAD		up to 100 m	
Product Temperature		-10°C to 100°C	-30°C - 120°C
Pump Discharge pressure		up to 10 bar	
Pump Size		32 mm to 150 mm	
M A T E R I A L	Volute Casing	Cast Iron FC250	Ductile FCD400 /Bronze BC6
	Casing Cover	Cast Iron FC250	Ductile FCD400 /Bronze BC6
	Bearing Housing	Cast Iron FC250	
	Impeller	Cast Iron FC200	Ductile FCD400/Bronze BC6
	Shaft	Martensitic Steel SUS420J2	SUS316/SUS304
	Casing wear ring	Bronze FC	Ductile FCD400/Cast Iron FC200
	Impeller wear ring	Bronze FC	Ductile FCD400/Cast Iron FC200
	Shaft protecting sleeve	Martensitic Steel SUS420J2	Austenitic Steel SUS304/316
Seal	Gland Packing	Mechanical Seal	
Ball Bearing	Deep Groove	Open type	
Lubrication	Grease	Oil	

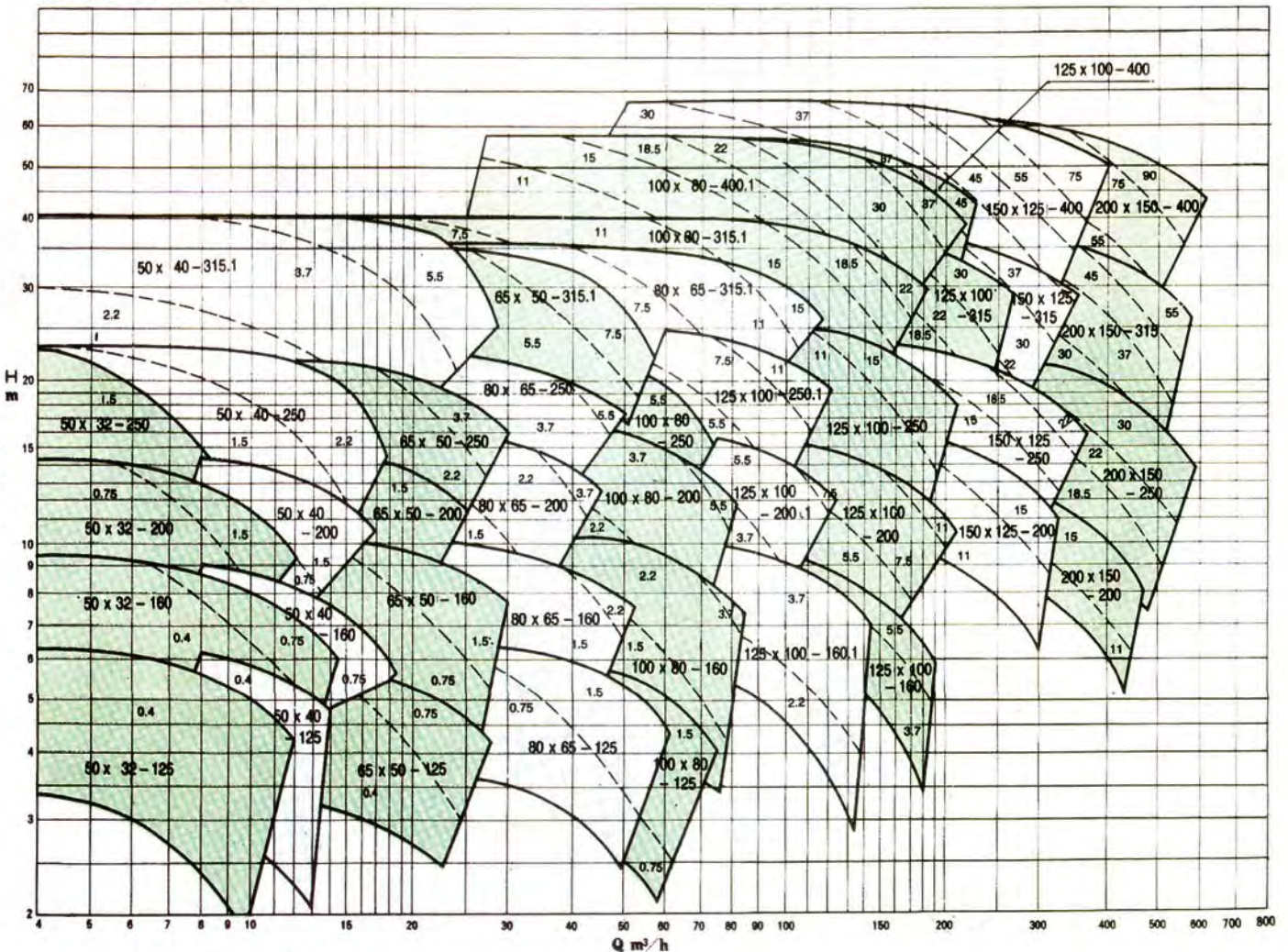
* All material combination within above mentioned material specification is possible.

Sectional Charts

50Hz-2P n=2900 1/min

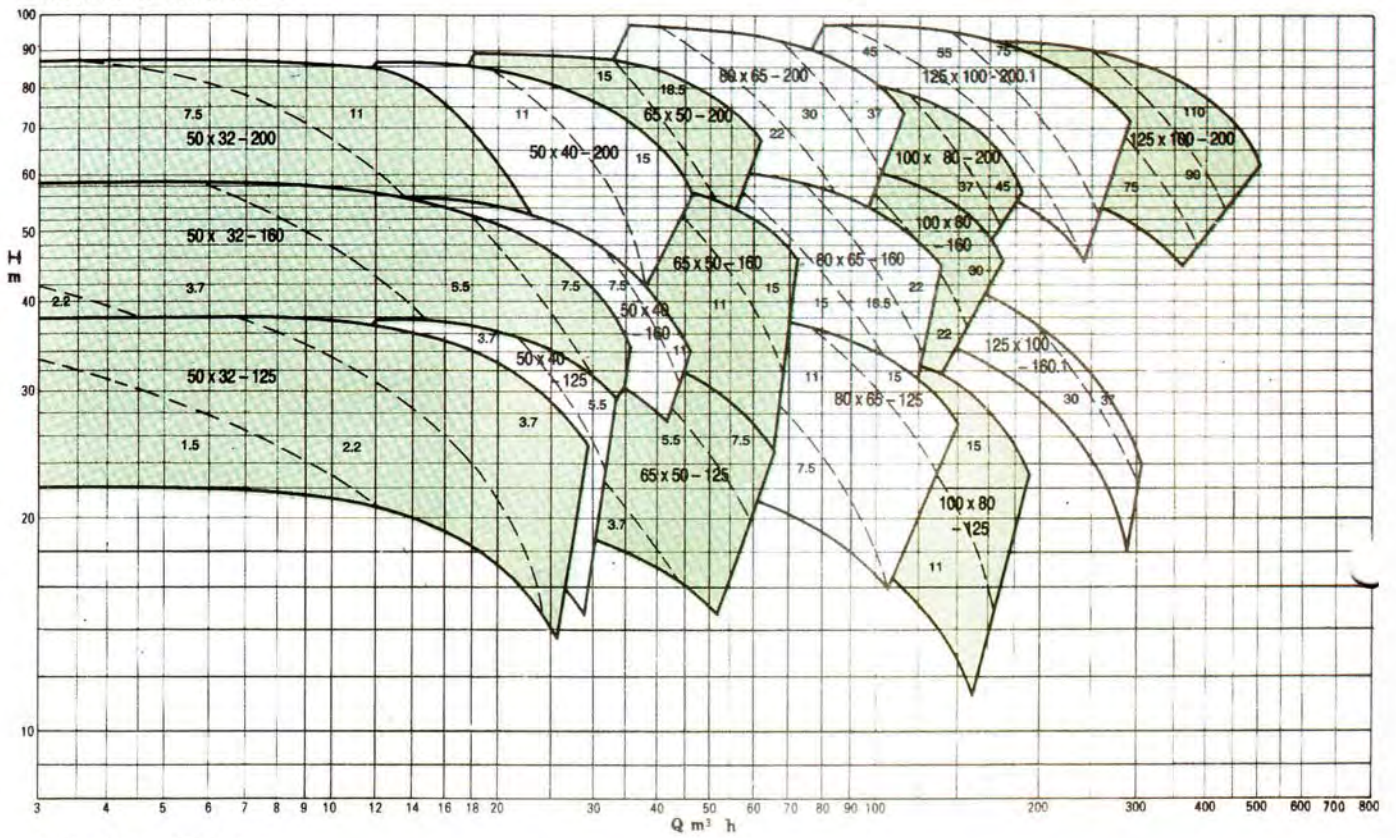


50Hz-4P n=1450 1/min

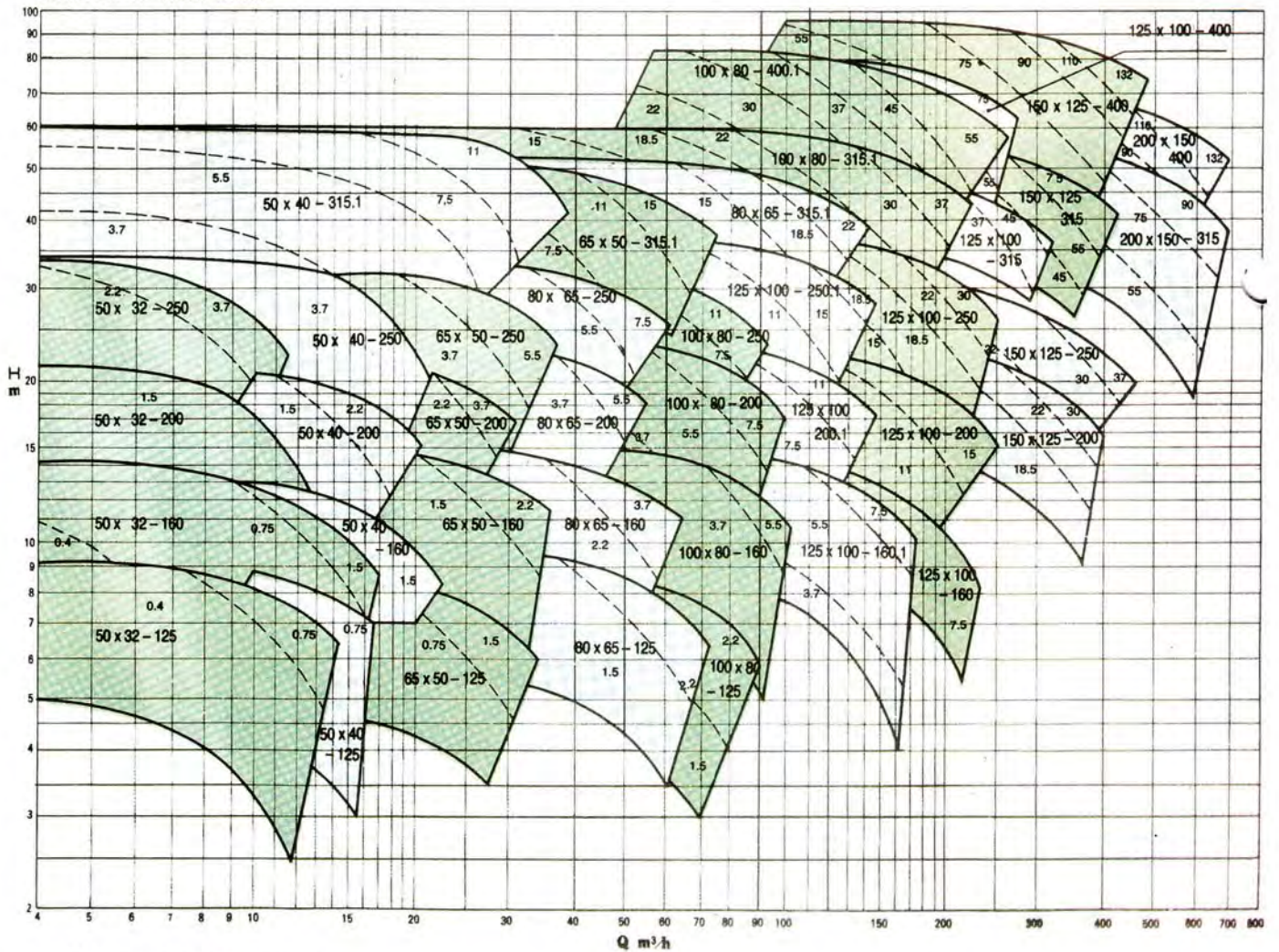


--- Shows motor rating in kW

60Hz-2P n=3500 1/min

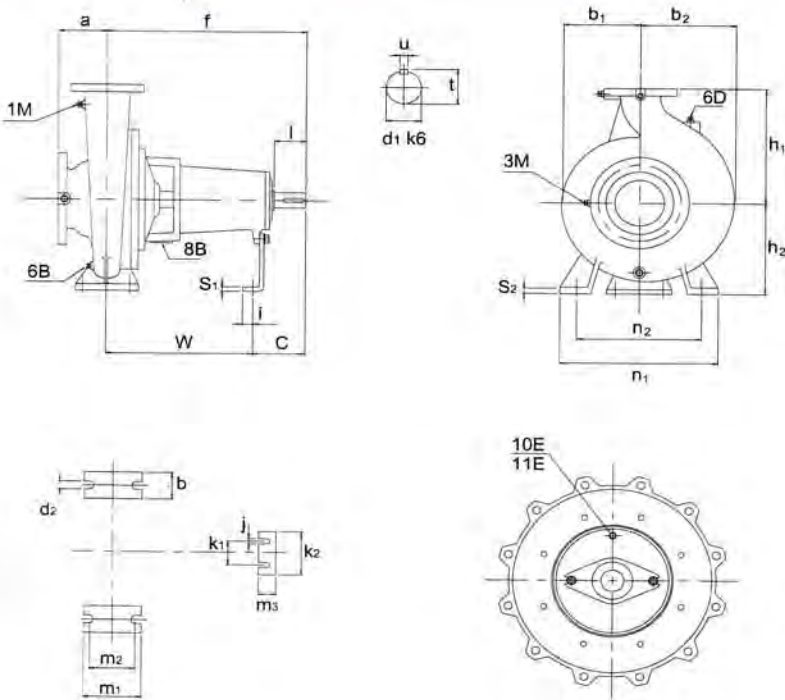


60Hz-4P n=1750 1/min

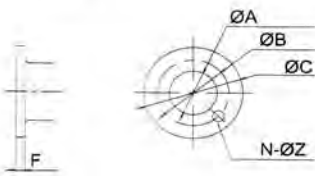


--- Shows motor rating in kW

Outline Drawing and Dimension Table



Pump flange dimensions (acc. to JIS 10kgf/cm² F.F)



Dimensions in mm

ND	ØA	ØB	ØC	F	N-ØZ
32	32	100	135	20	4-19
40	40	105	140	20	4-19
50	50	120	155	20	4-19
65	65	140	175	22	4-19
80	80	150	185	22	8-19
100	100	175	210	24	8-19
125	125	210	250	24	8-23
150	150	240	250	26	8-23
200	200	290	330	26	12-23

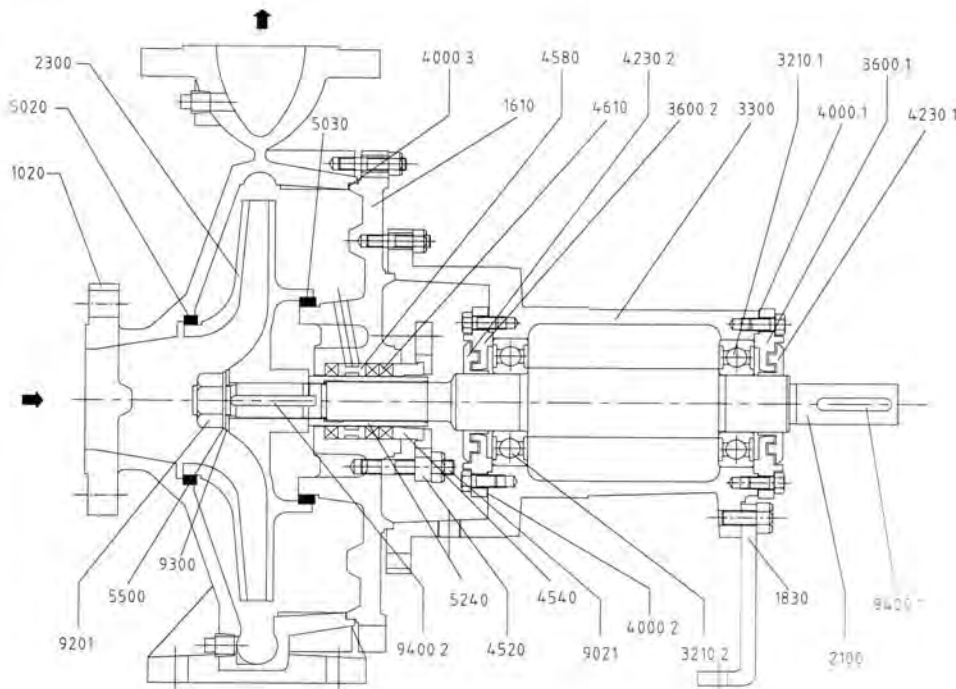
Auxiliary Connection

SYMBOL	DESIGNATION
1 M	Pressure Measurement Instrument
3 M	Pressure Measurement Instrument
6 B	Casing Drain
6 D	Priming and Venting
8 B	Leakage Drain
10 E	Sealing Liquid Inlet
11 E	Flushing Liquid Inlet

PUMP SIZE	1 M	6 B	8 B	10 E
	3 M	6 D		11 E
DIMENTION				
50 X 32-160				
50 X 32-200				
50 X 40-200				
50 X 40-250				
50 X 40-315.1				
65 X 50-160				
65 X 50-200				
65 X 50-250				
65 X 50-315.1				
80 X 65-160				
80 X 65-200				
80 X 65-250				
80 X 65-315.1				
100 X 80-125				
100 X 80-160				
100 X 80-200				
100 X 80-250				
100 X 80-315.1	PT 3/8			
100 X 80-400.1				
125 X 100-160				
125 X 100-200				
125 X 100-200.1				
125 X 100-250				
125 X 100-250.1				
125 X 100-315				
125 X 100-400				
150 X 125-200				
150 X 125-250				
150 X 125-315				
150 X 125-400				
200 X 150-200				
200 X 150-250				
200 X 150-315				
200 X 150-400				

PUMP SIZE	PUMP DIMENSION										FOOT DIMENSION										SHAFT END DIMENSION						
	DN1	DN2	a	b ₁	b ₂	f	h ₁	h ₂	b	C	d ₂	i	m ₁	m ₂	m ₃	j	k ₁	k ₂	n ₁	n ₂	S ₁	S ₂	W	d ₁ k6	l	t	u
50 X 32-160 *	50	32	80	116	125	360	132	180	50	103	16	25	100	70	50	15	110	160	240	190	4	15	257	24	50	27	8
50 X 32-200 *	50	32	80	128	137	360	160	180	50	103	16	25	100	70	50	15	110	160	240	190	4	18	257	24	50	27	8
50 X 40-200 *	50	40	80	132	141	360	160	180	50	103	16	25	100	70	50	15	110	160	240	190	4	18	257	24	50	27	8
50 X 40-250 *	50	40	100	170	176	360	180	225	65	108	16	25	125	95	50	15	110	160	240	190	4	18	257	24	50	27	8
50 X 40-315.1	50	40	125	194	203	470	225	250	65	132	16	25	125	95	50	15	110	160	345	280	6	18	338	32	80	35	10
65 X 50-160 *	65	50	80	115	131	360	132	180	50	103	16	25	100	70	50	15	110	160	240	190	4	15	257	24	50	27	8
65 X 50-200 *	65	50	100	133	147	360	160	180	50	103	16	25	100	70	50	15	110	160	265	212	4	15	257	24	50	27	8
65 X 50-250 *	65	50	100	168	178	360	180	225	65	109	16	25	125	95	50	15	110	160	320	260	4	18	251	32	50	35	8
65 X 50-315.1	65	50	125	200	216	470	225	280	65	132	16	25	125	95	50	15	110	160	345	280	6	18	338	32	80	35	10
80 X 65-160 *	80	65	100	126	147	360	160	180	50	103	16	25	100	70	50	15	110	160	265	212	4	15	257	24	50	27	8
80 X 65-200 *	80	65	100	145	165	360	160	200	50	103	16	25	100	70	50	15	110	160	265	212	4	15	257	32	50	35	8
80 X 65-250 *	80	65	100	168	184	360	180	225	65	109	16	25	125	95	50	15	110	160	265	212	4	15	257	32	50	35	8
80 X 65-315.1	80	65	125	208	229	470	225	280	90	132	21	25	160	120	50	15	110	160	320	250	4	18	251	32	50	35	8
100 X 80-125 *	100	80	100	120	148	360	160	180	65	103	16	25	125	95	50	15	110	160	280	212	4	18	257	32	50	35	8
100 X 80-160 *	100	80	100	130	158	360	160	200	65	103	16	25	125	95	50	15	110	160	280	212	4	18	257	32	50	35	8
100 X 80-200 *	100	80	100	164	177	360	180	225	65	109	16	25	125	95	50	15	110	160	320	250	4	18	251	32	50	35	8
100 X 80-250	100	80	100	180	200	470	200	250	80	132	21	25	160	120	50	15	110	160	360	280	6	20	338	32	80	35	10
100 X 80-315.1	100	80	125	220	244	470	250	315	80	132	21	25	160	120	50	15	110	160	400	315	6	20	338	32	80	35	10
100 X 80-400.1 **	100	80	125	253	276	530	280	355	80	192	21	25	160	120	50	15	110	160	435	355	6	20	338	42	115	45	12
125 X 100-160	125	100	125	178	225	470	200	250	80	132	21	25	160	120	50	15	110	160	360	280	6	18	338	32	80	35	10
125 X 100-200	125	100	125	173	213	470	200	280	80	132	21	25	160	120	50	15	110	160	360	280	6	18	338	32	80	35	10
125 X 100-200.1	125	100	125	161	189	470	180	250	85	132	16	25	125	95	50	15	110	160	345	280	4	18	338	32	80	35	10
125 X 100-250	125	100	140	190	220	470	225	280	80	132	21	25	160	120	50	15	110	160	400	315	6	20	338	32	80	35	10
125 X 100-250.1	125	100	125	184	210	470	225	280	80	132	21	25	160	120	50	15	110	160	400	315	6	18	338	32	80	35	10
125 X 100-315	125	100	140	225	255	470	250	315	80	132	21	25	160	120	50	15	110	160	400	315	6	18	338	32	80	35	10
125 X 100-400 **	125	100	140	253	280	530	280	355	100	192	26	25	200	150	50	15	110	160	500	400	6	20	338	42	115	45	12
150 X 125-200	150	125	140	195	244	470	250	315	80	132	21	25	160	120	50	15	110	160	400	315	6	20	338	32	80	35	10
150 X 125-250	150	125	140	229	275	470	250	355	80	132	21	25	160	120	50	15	110	160	400	315	6	20	338	32	80	35	10
150 X 125-315 **	150	125	140	238	278	530	280	355	100	192	26	25	200	150	50	15	110	160	500	400	6	20	338	42	115	45	12
150 X 125-400 **	150	125	140	275	305	530	315	400	100	161	26	25	200	150	50	15	110	160	500	400	6	20	338	42	115	45	12
200 X 150-200	200	150	160	238	315	470	280	400	100	132	26	25	200	150	50	15	110	160	550	450	6	20	338	32	80	35	10
200 X 150-250 **	200	150	160	228	298	530	280	375	100	192	26	25	200	150	50	15	110	160	500	400	6	20	338	42	115	45	12
200 X 150-315 **	200	150	160	255	303	530	315	400	100	161	26	25	200	150	50	15	140	200	550	450	6	20	369	42	115	45	12
200 X 150-400 **	200	150	160	285	325	530	315	450	100	161	26	25	200	150	50	15	140	200	550	450	6	20	369	42	115	45	12

Sectional Drawings and List of Components



PART No.	PART DESIGNATION	MATERIAL	QTY
1020	VOLUTE CASING	FC 250	1
1810	CASING COVER	FC 250	1
1830	SUPPORT FOOT	SS 400	1
2100	SHAFT	SUS 420J2	1
2300	IMPELLER	FC 200	1
3210.1	BALL BEARING	No. 63-C3	1
3210.2	BALL BEARING	No. 63-C3	1
3300	BEARING HOUSING	FC 250	1
3600.1	BEARING COVER	ADC 12	1
3600.2	BEARING COVER	ADC 12	1
4000.1	FLAT GASKET	TOMBO 1630	1
4000.2	FLAT GASKET	TOMBO 1630	1
4000.3	FLAT GASKET	TOMBO 1995	1
4230.1	LABYRINTH RING	PLASTIC	1
4230.2	LABYRINTH RING	PLASTIC	1
4520	GLAND	FC 200	1
4540	GLAND BUSH	FC 200	1
4580	LANTERN RING	FC 200	1
4810	GLAND PACKING	NON ASBESTOS	3
5020	CASING WEARING	FC 200	1
5030	IMPELLER WEARING	FC 200	1
5240	SH-ART PROTECTING SLEEVE	SUS 420J2	1
5500	WASHER IMPELLER *	SS 41	1
9021	GLAND BOLT	SUS 304	2
9201	FINE HEXAGONAL NUT	SS 400	1
9300	SPRING WASHER	SUS 304	1
9400 1	KEY	S45C	1
9400 2	KEY **	S45C	1

* Only use on Pump size with code 1 **

** There are 2 size (each size 1pc / unit pump) for Pump size 400 and 500 **



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